

IN THE CLAIMS

1. (Currently Amended) An image processing apparatus comprising:
a photoelectric conversion unit including a plurality of pixels; and
~~a noise correction device correcting noise in each of a plurality of~~
~~signals from the plurality of pixels by using the plurality of signals accumulated in each~~
~~pixel of the plurality of pixels during a plurality of different time periods, respectively~~
an operation unit operating a correction value corresponding to a
noise component accumulated in the plurality of pixels until a predetermined time period
elapses after reset of the plurality of pixels, on the basis of a first signal accumulated in the
plurality of pixels and a second signal accumulated in the plurality of pixels,
wherein the first signal is the noise component accumulated in the
plurality of pixels until a first time period elapses after the reset of the plurality of pixels,
and the second signal is the noise component accumulated in the plurality of pixels until a
second time period different from the first time period elapses after the reset of the plurality
of pixels.

2. (Currently Amended) An image processing apparatus according to
claim 1, wherein said ~~photoelectric conversion unit includes a plurality of pixels noise~~
~~correction device~~ operation unit calculates noise correction information corresponding to a
predetermined accumulation time period by using the ~~plurality of~~ first and second signals
accumulated during the ~~plurality of different~~ first and second time periods, respectively,

and corrects the noise in each of the ~~plurality of~~ first and second signals from each of the plurality of pixels by using a result of the calculation.

3. (Currently Amended) An image processing apparatus according to claim 1, further comprising a storage device storing ~~[[the]]~~ a noise ~~information~~ value.

4. (Previously Presented) An image processing apparatus according to claim 1, further comprising a counter device counting an accumulation time period of said photoelectric conversion unit.

5. (Currently Amended) An image processing apparatus according to claim 1, wherein said ~~noise correction device~~ operation unit includes a calculation device calculating noise information for noise dependent upon an accumulation time period and noise information for noise independent from the accumulation time period, in accordance with the noise information of the pixel obtained during the ~~plurality of different~~ first and second time periods.

6. (Currently Amended) An image processing apparatus according to claim 5, wherein said ~~noise correction device~~ operation unit calculates a difference between a noise signal dependent upon the accumulation time period in the signal output from the

pixel and a noise signal independent from the accumulation time period in the signal output from the pixel.

7. (Currently Amended) An image processing apparatus comprising:
a photoelectric conversion unit including a plurality of pixels;
a storage device storing noise information of each pixel of the plurality of pixels for noise independent from an accumulation time period and accumulated in the plurality of pixels until a first time period elapses after reset of the plurality of pixels and noise information of each pixel for noise dependent upon the accumulation time period and accumulated in the plurality of pixels until a second time period different from the first time period elapses after the reset of the plurality of pixels;
and
~~a noise correction device correcting noise in a signal output from said photoelectric conversion unit by using the~~ an operation unit operating a correction value corresponding to a noise component accumulated in the plurality of pixels until a predetermined time period elapses after reset of the plurality of pixels, on the basis of noise information for the noise independent from the accumulation time period and the noise information for the noise dependent upon the accumulation time period, stored in said storage device.

8. (Previously Presented) An image processing apparatus according to claim 7, further comprising a counter device for counting the accumulation time period of each pixel.

9. (Currently Amended) An image processing apparatus according to claim 7, wherein said ~~noise correction device~~ operation unit calculates a difference between a noise signal dependent upon the accumulation time period in the signal output from each pixel and a noise signal independent from the accumulation time period in the signal output from each pixel.

10. (Currently Amended) An automatic focus detecting apparatus comprising:

a photoelectric conversion unit including a plurality of pixels;

~~a noise correction device correcting noise in each of a plurality of signals from the plurality of pixels by using the plurality of signals accumulated in each pixel of the plurality of pixels during a plurality of different time periods, respectively;~~

an operation unit operating a correction value corresponding to a noise component accumulated in the plurality of pixels until a predetermined time period elapses after reset of the plurality of pixels, on the basis of a first signal accumulated the plurality of pixels and a second signal accumulated in the plurality of pixels, and wherein the first signal is the noise component accumulated in the plurality of pixels until a first

time period elapses after the reset of the plurality of pixels, and the second signal is the noise component accumulated in the plurality of pixels until a second time period different from the first time period elapses after the reset of the plurality of pixels; and

a distance measurement calculation device performing a distance measurement calculation ~~in accordance with a signal corrected by said noise correction device~~ on the basis of the correction value operated by said operation unit.

11.- 18. (Canceled).

19. (New) An image processing apparatus according to claim 1, wherein the first signal is a signal relating to a fixed pattern noise component, and the second signal is a signal relating to a dark current component.